

## **APPENDIX A**

### **SAMPLE MEMORANDUMS OF UNDERSTANDING FOR LOCAL FLOOD WARNING SYSTEMS (LFWS)**

#### **Automated Local Flood Warning System**

This sample Memorandum of Understanding for an automated Local Flood Warning System contains the core responsibilities of both the Cooperator and the National Weather Service (NWS). Additional responsibilities, such as those related to the Cooperator donating or loaning base station equipment to the NWS, must be included as described under Weather Service Operations Manual Chapter E-40.

#### **Manual LFWS**

This sample Memorandum of Understanding for a manual Local Flood Warning System contains the core responsibilities of both the Cooperator and the NWS. Additional responsibilities must be included as described under Weather Service Operations Manual Chapter E-40.



**MEMORANDUM OF UNDERSTANDING**  
**FOR AN**  
**AUTOMATED LOCAL FLOOD WARNING SYSTEM**

This Memorandum of Understanding (MOU) between the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) and \_\_\_\_\_ (Cooperator) is undertaken for the development and operation of an automated Local Flood Warning System (LFWS).

1. Authority

The NWS undertakes this MOU pursuant to its authority in 15 U.S.C. Section 313 and 7 U.S.C. Section 450b in order to carry out its functions relating to flood warnings.

2. Nature of Agreement

The Cooperator and the NWS agree to a program for the installation and operation of an automated LFWS for \_\_\_\_\_ (community, area, or basin).

3. Responsibilities of the Cooperator

- A. Ensure development and operation of an emergency response plan prior to or concurrent with execution of this MOU that includes:
  - coordination with the NWS and
  - dissemination of warnings to the public.
- B. With Cooperator or third-party funds, pay for capital cost of equipment and all installation costs.
- C. With Cooperator or third-party funds, pay for the capital cost of major equipment replacement.

- D. Install, operate, maintain, and assume recurring costs of the automated LFWS including:
- emergency operations center (utilities, physical space);
  - equipment used to support the Cooperator's program including radio reporting rain gages, flash flood alarms, base station including the radio equipment, repeaters, staff gages;
  - communications and utility costs to support the Cooperator activities; and
  - equipment in NWS office.
- E. Designate, by name or position, who shall act for the Cooperator as the local representative.
- F. Review annually with the NWS this MOU and the response plan. Update as necessary.
- G. Conduct an annual drill, in coordination with the NWS, to test the system.
- H. Ensure continuous operation of the system in order to provide the necessary database.
- I. Monitor the system and immediately notify the NWS of system malfunctions.
- J. Relay NWS flash flood/flood watches, warnings, and statements to the public.
- K. Establish a continuously operating (or as required) emergency operations center for the purpose of:
- operating the base station (data receiver and computer) where applicable;
  - receiving and recording all reports of rainfall and flood conditions;
  - promptly relaying or making available all such reports to the designated Cooperator's representative;
  - serving as the official distribution point for all warnings and statements issued by or for the designated Cooperator's Flood Warning Coordinator. When emergency conditions and lack of time prevent warnings from being issued by the NWS, the designated local official(s) shall be prepared to issue appropriate warnings;
  - ensuring that, in addition to general public distribution, flood warnings or statements reach warning action points as listed in the Cooperator's response plan;
  - relaying river and rainfall reports, flood data, and warnings to the designated NWS office as soon as practicable after local requirements have been satisfied. The standards and formats for this information relay are described in \_\_\_\_\_(attachment).

4. Responsibilities of the National Weather Service

- A. Assist in selection of equipment appropriate to the automated LFWS.
- B. Provide assistance in rain and river gage site location.
- C. Sponsor, where applicable, radio licenses required for the system on behalf of the Cooperator. (The Cooperator shall be the licensee of record.)
- D. Utilize data from the automated LFWS and provide hydrometeorological forecast and warning service for the area served by the automated LFWS.
- E. Provide appropriate warning distribution over NOAA Weather Wire Service and/or other NOAA product dissemination systems.
- F. Where feasible and appropriate, transmit to the Cooperator, in the most convenient manner, suitable and mutually agreed upon NWS hydrometeorological products.
- G. Provide training for the Cooperator's flash flood coordinators and local authorities (including network observers). The scope of the training covers:
  - the NWS flood/flash flood watch/warning program,
  - local flood warning programs,
  - operation and maintenance procedures for communications and hydrologic instrumentation,
  - the need for emergency response planning,
  - how to establish and maintain observer networks, and
  - periodic drills to test the system.
- H. Conduct an annual drill, in coordination with the Cooperator, to test the system.

5. Title to Equipment

Title to equipment purchased under this MOU shall remain vested with the purchaser.

6. Amendments and Modifications

This MOU may be amended or modified by mutual agreement of the NWS and the Cooperator. Additional responsibilities by either party are listed on an Addendum attached hereto and made a part hereof.

7. Termination

This MOU may be terminated by either party upon sixty (60) days written notice to the other party, notice to begin with date of mailing. All equipment shall be returned within sixty (60) days to the purchasing party of such equipment. Equipment shall be returned in the condition it was at the time of termination.

8. Effective Date

This MOU becomes effective on the date of the last signature shown below upon execution by the parties hereto.

Cooperator

National Weather Service

BY: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

TITLE: Regional Director

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

**MEMORANDUM OF UNDERSTANDING**  
**FOR A**  
**MANUAL LOCAL FLOOD WARNING SYSTEM**

This Memorandum of Understanding (MOU) between the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) and \_\_\_\_\_ (Cooperator) is undertaken for the development and operation of a manual Local Flood Warning System (LFWS).

1. Authority

The NWS undertakes this MOU pursuant to its authority in 15 U.S.C. Section 313 and 7 U.S.C. Section 450b in order to carry out its functions relating to flood warnings.

2. Nature of Agreement

The Cooperator and the NWS agree to a program for the installation and operation of a manual LFWS for \_\_\_\_\_ (community, area, or basin).

3. Responsibilities of the Cooperator

A. Ensure development and operation of an emergency response plan prior to or concurrent with the execution of this MOU that includes:

- coordination with the NWS and
- dissemination of warnings to the public.

B. Arrange for volunteer network observers.

C. Install, operate, and maintain the manual LFWS including:

- emergency operations center and
- equipment used to support the Cooperator's program including staff gages and plastic rain gages.

- D. Designate, by name or position, who shall act for the Cooperator as the local representative.
- E. Review annually with the NWS this MOU and the response plan. Update as necessary.
- F. Conduct an annual drill, in coordination with the NWS, to test the system.
- G. Monitor the manual LFWS and immediately notify the NWS of any significant program problems.
- H. Relay NWS flash flood/flood watches, warnings, and statements to the public.
- I. Establish an emergency operations center for the purpose of:
  - receiving and recording all reports of rainfall and flood conditions;
  - promptly relaying or making available all such reports to the designated Cooperator's representative;
  - serving as the official distribution point for all warnings and statements issued by or for the designated Cooperator's Flood Warning Coordinator. When emergency conditions and lack of time prevent warnings being issued by the NWS, the designated local official(s) shall be prepared to issue appropriate warnings;
  - ensuring that, in addition to general public distribution, flood warnings or statements reach warning action points as listed in the Cooperator's response plan;
  - relaying river and rainfall reports, flood data, and warnings to the \_\_\_\_\_ NWS office as soon as practicable after local requirements have been satisfied.

4. Responsibilities of the National Weather Service

- A. Assist in selection of equipment appropriate to the manual LFWS.
- B. Provide assistance in rain and river gage site location.
- C. Develop a self-help forecasting procedure as data become available for specific drainage basins and provide a copy to the Cooperator officials along with instructions for its use.
- D. Utilize data from the manual LFWS and provide hydrometeorological forecast and warning service for the area served by the manual LFWS.
- E. Provide appropriate warning distribution over NOAA Weather Wire Service and/or other NOAA product dissemination systems.



F. Provide training for the Cooperator's flash flood coordinators and local authorities (including network observers). The scope of the training covers:

- the NWS flood/flash flood watch/warning program,
- local flood warning programs,
- the need for emergency response planning,
- how to establish and maintain observer networks, and
- periodic drills to test the system.

G. Conduct an annual drill, in coordination with the Cooperator, to test the system.

5. Amendments and Modifications

This MOU may be amended or modified by mutual agreement of the NWS and the Cooperator. Additional responsibilities by either party are listed on an Addendum attached hereto and made a part hereof.

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Cooperator

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